

Docket No.: 050395-0342



PATENT

IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Customer Number: 20277
Masahiro YAMAKAWA, et al.	:	Confirmation Number: 1405
Application No.: 10/531,697	:	Group Art Unit: 1751
Filed: April 18, 2005	:	Examiner: Not yet assigned
For: ELECTRICALLY CONDUCTIVE PASTES	:	

**SECOND REQUEST FOR CORRECTED FILING RECEIPT**

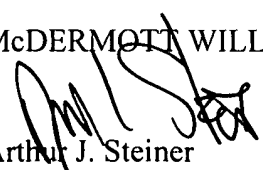
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Alexandria, VA 22313-1450

Sir:

Attached is a copy of the Filing Receipt received from the U.S. Patent and Trademark Office in the above-referenced application. It is noted that there is an **error in the spelling of the name of the second inventor** and in the **Domestic Priority data**. Attached is a copy of the front page of the International Application, which evidences the **second inventor is Kohei Shimoda** and the application is a 371 of **PCT/JP2004/010286**. It is requested that a corrected filing receipt be issued.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

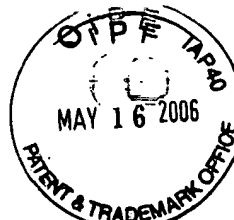
  
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**Date: May 16, 2006**

**Please recognize our Customer No. 20277  
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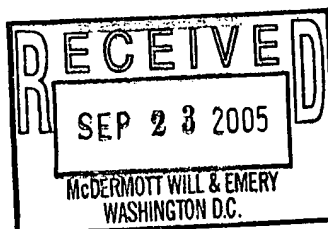
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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/531,697	04/18/2005	1751	1260	050395-0342	1	9	1

20277  
 MCDERMOTT WILL & EMERY LLP  
 600 13TH STREET, N.W.  
 WASHINGTON, DC 20005-3096



CONFIRMATION NO. 1405

## FILING RECEIPT



\*OC000000017023940\*

Date Mailed: 09/19/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Masahiro Yamakawa, Osaka-shi, JAPAN;  
 Kohej Shimoda, Osaka-shi, JAPAN;

**Power of Attorney:** The patent practitioners associated with Customer Number 20277.

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP04/10286 07/13/2004

## Foreign Applications

JAPAN 2003-289607 08/08/2003

**Projected Publication Date:** 12/22/2005

**Non-Publication Request:** No

**Early Publication Request:** No

## Title

Conductive paste

**Preliminary Class**

252

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(12)特許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関  
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(43) 国際公開日  
2005年2月17日 (17.02.2005)

PCT

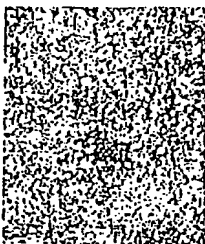
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特願2003-289607 2003年8月8日 (08.08.2003) JP
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- (81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,

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(54) Title: CONDUCTIVE PASTE

(54) 発明の名称: 導電性ペースト



(57) Abstract: A conductive paste is disclosed which exhibits high conductivity even when sintered at 500°C or less and enables to form a thick film on a base without forming an interference fringe or a crack in the base. The conductive paste mainly contains a metal powder, a glass frit and an organic vehicle. The metal powder is composed of 50-99 weight% of spherical particles having an average primary particle diameter of 0.1-1  $\mu$ m and 1-50 weight% of spherical particles having an average primary particle diameter of 50 nm or less. The glass frit is contained in the conductive paste in an amount of 0.1-15 weight% relative to the total weight of the glass frit and the metal powder. Preferably, the glass frit contains no lead, has a working temperature of 500°C or less, and has an average particle diameter of 2  $\mu$ m. This conductive paste is often printed and sintered on a substrate for forming an electrical circuit on the substrate.

(57) 要約:

500℃以下の温度で焼結しても高導電性が得られ、また基材上に膜厚を厚く形成してもその基材に干渉縞やクラックを生じない導電性ペーストを提供する。

金属粉末、ガラスフリット及び有機ビヒクルを主成分とし、前記金属粉末は、一次粒子の平均粒径が0.1～1  $\mu$ mの球状粒子を50～99重量%と、一次粒子の平均粒径が50 nm以下の球状粒子を1～50重量%とからなり、かつ、ガラスフリットは、ガラスフリットと金属粉末の合計値に対して0.1重量%以上、15重量%以下である。また該ガラスフリットは鉛を含まず、作業点が500℃以下であり、平均粒径2ミクロン以下のものが好ましい。本発明は、基板上に印刷し、加熱焼結して該基板上に電気回路を形成するために多く使用される。

WO 2005/015573 A1



LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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